

communication protocol independent of said first communication protocol and said second-tier base station connected to said first-tier base station;
a first-tier remote unit wirelessly connected to said first-tier base station through said first radio transceiver; and

a second-tier remote unit wirelessly connected to said second-tier base station through said second radio transceiver;

wherein the second radio transceiver operates at a lower power than the first radio transceiver by performing the following steps:

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- (a) synchronizing the second radio transceiver with the second-tier base station;
- (b) powering down the second radio transceiver for more than half of its operating time;
- (c) buffering data intended for the second radio transceiver at the second-tier base station;
- (d) announcing the buffered data to the second radio transceiver at regular predetermined interval until the second radio transceiver retrieves the buffered data from the second-tier base station.

2. The system of claim 1, wherein said first-tier remote unit or second-tier remote unit comprises a data collection device.

3. The system of claim 2, wherein said first-tier remote unit or second-tier remote unit comprises a bar code reader or an RFID reader.

4. The system of claim 1, wherein said first-tier remote unit or second-tier remote unit comprises a vending machine.

5. The system of claim 1, wherein said first-tier remote unit or second-tier remote unit comprises a pager.

6. The system of claim 1, wherein said first-tier remote unit or second-tier remote unit comprises a door lock.

7. The system of claim 1, wherein said first-tier remote unit or second-tier remote unit comprises a computer peripheral.

8. The system of claim 1, wherein said first-tier remote unit or second-tier remote unit comprises a computer peripheral selected from the group comprising a printer, modem, handheld terminal, point of sale station, and other serial or parallel devices.

9. The system of claim 1, wherein said second-tier base station is wirelessly connected to said first-tier base station.

10. The system of claim 1, wherein said first-tier base station is wirelessly connected to the LAN.

11. The system of claim 1, wherein said second-tier base station is connected to said first-tier base station through a serial port.

12. The system of claim 1, further comprising:
another second-tier base station wirelessly connected to said second-tier base station.

13. A multi-tier system for digital packet radio communication, comprising:
a host connected to a local area network;
a first-tier base station having an operating range of over about 100 feet connected to said host through the local area network, said first-tier base station comprising a first radio transceiver for spread spectrum radio transmission in accordance with a first communication protocol;
a second-tier base station having an operating range of about 5 to about 100 feet comprising a second radio transceiver operating in accordance with a second communication protocol independent of said first communication protocol and said second-tier base station connected to said first-tier base station;
a remote unit wirelessly connected to said second-tier base station through said second radio transceiver;

wherein the second radio transceiver operates at a lower power than the first radio transceiver by performing the following steps:

(a) synchronizing the second radio transceiver with the second-tier base station;

- (b) powering down the second radio transceiver for more than half of its operating time;
- (c) buffering data intended for the second radio transceiver at the second-tier base station;
- (d) announcing the buffered data to the second radio transceiver at regular predetermined interval until the second radio transceiver retrieves the buffered data from the second-tier base station.

14 The system of claim 13, further comprising:

an enclosure containing both said first-tier base station and said second-tier base station.

15. The system of claim 13, further comprising:

another second-tier base station wirelessly connected to said second-tier base station.

16 A multi-tier system for digital packet radio communication, comprising:

a host connected to a local area network;

a first-tier base station connected to said host through the local area network, said first-tier base station comprising a first-tier radio transceiver for spread spectrum radio transmission in accordance with a first communication protocol;

a second-tier base station having an operating range of about 5 to about 100 feet comprising a second-tier radio transceiver operating in accordance with a second

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communication protocol independent of said first communication protocol and said second-tier base station connected to said first-tier base station;

another second-tier base station comprising another second-tier radio transceiver communicating in accordance with said second communication protocol and said another second-tier base station connected to said second-tier base station; and

a remote unit wirelessly connected to said another second-tier base station through said another second-tier radio transceiver

wherein each of the second-tier radio transceivers operate at a lower power than the first-tier radio transceiver by performing the following steps:

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- (a) synchronizing the second-tier radio transceivers with the second-tier base station;
- (b) powering down the second-tier radio transceivers for more than half of its operating time;
- (c) buffering data intended for the second-tier radio transceivers at the second-tier base station;
- (d) announcing the buffered data to the appropriate second-tier radio transceiver at regular predetermined interval until the second-tier radio transceiver retrieves the buffered data from the second-tier base station.

17. The system of claim 16, further comprising:

additional one or more second-tier base stations connected wirelessly to said first second-tier base station, each of said one or more second-tier base stations comprising a second-tier radio transceiver operating in accordance with said second communication protocol.